INDEX

RUBBER CHEMISTRY AND TECHNOLOGY VOLUME 3, 1930

AUTHORS

Page

ABBOTT, FRANZ D. The Testing of Automotive Rubber Parts Assembled under Compression.. 431
ADAMS, L. H., AND GIBSON, R. E. The Compressibility of Rubber..... 555
ALLEN, RAYMOND P. Method of Making Micro-Sections of Rubber Stocks..... 755
ANDRIESSEN, ALBRECHT. *See* Pummerer, Rudolf.
ARIANO, R. The Coefficients of Friction between Rubber and Various Materials. I..... 67
The Coefficients of Friction between Rubber and Various Materials. II..... 286
The Relationship between Forces and Deformations..... 62
ASANO, M. *See* Staudinger, H.

BALL, J. M. *See* Somerville, A. A.
BARR, GUY. The Aging of Cotton Contained in Rubber Goods..... 53
BARY, PAUL. The Constitution of Rubber According to Its Swelling in Liquids..... 576
BEUMÉE-NIEUWLAND, (MRS.) N. The Coagulation of Hevea Latex..... 353
BIERER, J. M., AND DAVIS, C. C. Relation between Artificial Aging Tests and Natural Aging.. 144
BLAKE, JOHN T. Studies in the Vulcanization of Rubber. I, II, III.....631, 639, 651
See also Boggs, C. R.
BLOW, C. M. An Investigation of the Viscosity of Rubber Solutions..... 604
See also Stamberger, P.
BOGGS, C. R., AND BLAKE, J. T. Studies in the Vulcanization of Rubber, IV..... 659
See also Wiegand, W. B.
BOND, W. *See* Healey, A.
BONDY, H. F. *See* Staudinger, H.
BUSSE, W. F., AND DOGGETT, W. B. Application of the Falling Cylinder to the Measurement of the Viscosity of Thick Rubber Cements..... 701

CADWELL, SIDNEY M. Correlation of Various Aging Tests with Natural Shelf Aging..... 169
CARSON, C. M. Determination of Total Moisture in Carbon Blacks..... 340
CARSON, C. M., AND SEBRELL, L. B. Some Observations on Carbon Black..... 111
CONANT, J. B., AND TONGBERG, C. O. Polymerization Reactions under High Pressure. I..... 472
CONOVER, F. S. Effect of Pigmentation on the Work of Retraction of Rubber Compounds..... 764
COPE, W. H. *See* Somerville, A. A.
CORBET, ALEXANDER STEVEN. The Natural Coagulation of Hevea Latex..... 254
CROAKMAN, E. G. *See* Winkelmann, H. A.

DAVEY, W. CECIL. Studies in the Oxidation of Rubber Mixings..... 563
DAVEY, W. CECIL, AND OHYA, T. On the Permeability of Rubber Mixings..... 96
DAVIES, J. M. *See* Karrer, E.
DAVIS, C. C. *See* Bierer, J. M.
DEPEW, HARLAN A. Influence of Pigments on Some Physical Properties of Unvulcanized Rubber 87
DEPEW, HARLAN A., AND JONES, H. C. Laboratory Flexing Texts as an Aid in Investigating the Pneumatic Carcass..... 544
DEWALD, R. H. *See* Waterman, H. I.
DIETERICH, E. O. Estimation of the Degree of Penetration of Rubber into Fabrics..... 328
See also Karrer, E.
DOGGETT, W. B. *See* Busse.
DUFRAISSE, CHARLES. *See* Moureu, Charles.

EDLAND, L. A. *See* Somerville, A. A.
EVERS, F. The Swelling of Latex..... 361
EYMERS, (MISS) J. G. *See* Ornstein, L. S.

FIKENTSCHER, H., AND MARK, H. A Spiral Model of Rubber..... 201
FISHER, H. L., AND CHITTENDEN, F. D. 3-Methyl-1,3-Pentadiene..... 626
FOLLANSBEE, EVERETT M. Accelerated Aging vs. Shelf Aging..... 156
FROMANDI, G. Chemical Adsorption Studies of Rubber Fillers and Rubber Compounds..... 229
FUKUNAGA, KENJI. *See* Toyabe, Yutaka.
FULLERTON, R. G. Notes on Defects in Smoked Sheet and Crepe Rubber..... 264

GARNER, T. L. Factors in the Works Control of Plasticity by the Williams Method..... 293
GERKE, ROSCOE H. Thermodynamics of Stressed Vulcanized Rubber..... 304
GIBBONS, W. A. Flexing Test for Tire Carcass Stocks..... 333
GIBSON, R. E. *See* Adams, L. H.
GRAY, A. N. *See* Ingmanson, J. H.
GRENQUIST, ERNST A. Structural Changes during the Processing of Rubber..... 716
GÜNDEL, WOLFGANG. *See* Pummerer, Rudolf.

HARTNER, FRITZ. The Surface Energy between Rubber and Fillers..... 215
HAUSER, E. A., in collaboration with M. HÜNEMÖRDER. Structural Differences in Masticated and Unmasticated Raw Rubber Mixtures and Vulcanizates and Their Significance from a Practical Point of View..... 35
HAUSHALTER, F. L. Recovering Lead in Rubber Factory..... 470
HEALEY, A., AND BOND, W. The Pneumatic Tire in Heavy Transport..... 271
HENNE, ALBERT L. *See* Midgely, Thos., Jr.
HÜNEMÖRDER, M. *See* Hauser, E. A.

Page

INGMANSON, J. H., AND GRAY, A. N. Studies Relating to Compression and Shear Resistance of Rubber 523

JOHNSON, C. R. Carbon Black. II 122
JONES, H. C. *See* Depew, Harlan A.

KARRER, E., DAVIS, J. M., AND DIETERICH, E. O. A Simplified Goodrich Plastometer 295
KEENAN, R. L. The Formation of Thin Films of Organic Colloids on Mercury Surfaces 245
KILBOURN, F. L., JR., AND MILLER, G. W. Rate of Cure of Reclaimed Rubber. II 315
KIRCHHOF, F. Color Reactions of Rubber and Gutta-Percha 22
The Question of Vulcanization without Sulfur 190
KNOWLAND, THOMAS M. Stretch and Strength of Double Texture Rubber Goods 531
KRALL, STANLEY. Natural vs. Artificial Aging 148

LEUPOLD, E. O. *See* Staudinger, H.
LEVI, T. G. Condensation Products of Aminophenols with Aldehydes 51
Quebrachitol from the Serum of Hevea Latex 1
LOTTE, PIERRE. *See* Moureu, Charles.

MACKAY, J. G. The Measurement of the p_H Value of Rubber Latex 616
MARK, H. *See* Fikentscher, H.
MARTIN, G. *See* Thiollet, R.
MESSENGER, T. H. Heats of Combustion of Rubber, Gutta-Percha and Balata 24
MIDGELY, THOMAS, JR., AND HENNE, ALBERT L. Natural and Synthetic Rubber. IV 483
Natural and Synthetic Rubber. V 485
MILLER, G. W. *See* Kilbourn, F. L., Jr.
MORRIS, V. N., AND STREET, J. N. Permeability of Rubber to Air. I 99
MOUREU, CHARLES, DURFRAISSE, CHARLES, AND LOTTE, PIERRE. Aging of Rubber and Its Retardation by the Surface Application of Antioxygens 370

NAUNTON, W. J. S. Influence of Light on the Color of White Rubber 615
NEAL, ARTHUR M. *See* Williams, Ira.
NELLEN, A. H., AND SELLERS, H. M. Correlation between Geer Oven and Natural Aging of Selected Tire Compounds 175

OHYA, T. *See* Davey, W. Cecil.
OKUYAMA, KAROKU. *See* Yamazaki, Takeji.
ORNSTEIN, L. S., EYMERS, (MISS) J. G., AND WOUDA, J. Thermodynamics of Rubber. I 397
ORNSTEIN, L. S., WOUDA, J., AND EYMERS, (MISS) J. G. Thermodynamics of Rubber. II 403
OSTROMISLENSKY, IWAN. Vulcanization of Rubber by Organic Peroxides or by Ammonium Persulphate 195

PARKINSON, D. Some Properties of Carbon Black 418
PHYSICAL TESTING COMMITTEE. Report of 179
PLUMMER, WM. B. Moisture Content of Carbon Blacks 185
PORRITT, B. D. *See* Tiltman, H. A.; *see* Webster, D. M.
PUMMERER, RUDOLF, ANDRIESSEN, ALBRECHT, AND GÜNDEL WOLFGANG. Cryoscopic Measurements of Rubber Solutions and Separation of Mixed Phases from Benzene Solutions of Rubber. 9 487

RIEBL, R. *See* de Vries, O.

SCOTT, J. R. The Swelling of Vulcanized Rubber in Liquids 3
SEBRELL, L. B. *See* Carson, C. M.
SELLERS, H. M. *See* Nellen, A. H.
SIGNER, R. *See* Staudinger, H.
SOMERVILLE, A. A., BALL, J. M., AND COPE, W. H. The Aging of Vulcanized Rubber under Varying Elongation 131
SOMERVILLE, A. A., BALL, J. M., AND EDLAND, L. A. Autographic Stress-Strain Curves of Rubber at Low Elongations 689
SOULE, K. J. Aging of Mechanical Rubber Stocks by Various Methods 157
STAMBERGER, PAUL. A Study of the Vapor-Pressure Diminution of Rubber Jellies 235
STAMBERGER, P., AND BLOW, C. M. The Solvation of High Molecular Substances, Especially Rubber 409
STAUDINGER, H. Isoprene and Rubber. XX 586
Isoprene and Rubber. XXI 596
STAUDINGER, H., ASANO, M., BONDY, H. F., AND SIGNER, R. Isoprene and Rubber. XIII 494
STAUDINGER, H., AND BONDY, H. F. Isoprene and Rubber. XVII 511
Isoprene and Rubber. XIX 519
STAUDINGER, H., AND LEUPOLD, E. O. Isoprene and Rubber. XVIII 516
STREET, J. N. *See* Morris, V. N.

THIOLLET, R., AND MARTIN, G. An Attempt at a Rational Classification of the Principal Accelerators of Vulcanization 384
The Influence of the Principal Accelerators of Vulcanization on the Preservation of Rubber 207
TILTMAN, H. A., AND PORRITT, B. D. The Effect of Solvents on the Stress-Strain Curve of Vulcanized Rubber 19
TONGBERG, C. O. *See* Conant, J. B.
TOYABE, YUTAKA. Studies of Conditions Affecting the Vulcanization of Rubber. IV 384
TOYABE, YUTAKA, AND FUKUNAGA, KENJI. Studies of Conditions Affecting the Vulcanization of Rubber. III 242
TULLENERS, A. J. *See* Waterman, H. I.

VOGT, W. W. Some Notes on Artificial Aging Tests for Rubber 164
DE VRIES, O., AND RIEBL, R. The Tensile Strength of Java Plantation Rubber 350

Page

WATERMAN, H. I., DEWALD, R. H., AND TULLENERS, A. J. The Berginization of Raw Rubber.. 33
WEBSTER, D. M., AND PORRITT, B. D. Experiments on the Causes of the Deterioration of Ebonite When Exposed to Light and Air..... 618
WIEGAND, W. B., AND BOGGS, C. R. Carbon Black in Rubber Insulating Compounds..... 733
WILLIAMS, IRA. Transformation of Energy by Rubber..... 74
WILLIAMS, IRA, AND NEAL, ARTHUR M. Solubility of Oxygen in Rubber and Its Effect on Rate of Oxidation..... 578
WINKELMANN, H. A., AND CROAKMAN, E. G. Behavior of Various Clays with Crude and Reclaimed Rubber..... 743
WOLESENSKY, EDWARD. Evolution of Hydrogen Sulfide from Vulcanized Rubber..... 386
WOUDA, J. *See* Ornstein, L. S.

YAMAZAKI, TAKEJI, AND OKUYAMA, KAROKU. Studies of the Aging of Vulcanized Rubber. X.. 378
YOUNG, H. C. Some Engineering Problems in the Rubber Industry..... 343

SUBJECT

	Page
Accelerated Aging vs. Shelf-Aging	156
Accelerators, an Attempt at a Rational Classification of	38
Aging of Cotton in Rubber Goods	53
Aging of Mechanical Rubber Goods Stocks by Various Methods	157
Aging of Rubber	131, 144, 148, 156, 164, 169, 175, 370, 378
Aging of Rubber and Its Retardation by the Surface Application of Antioxygens	370
Alternating Behavior of Fatty Acids in Rubber Compounds	612
An Attempt at a Rational Classification of the Principal Accelerators of Vulcanization	38
Antioxygens, Aging of Rubber by	370
Application of Falling Cylinder to Measurement of Viscosity of Rubber Cements	701
A Spiral Model of Rubber	201
A Study of the Vapor Pressure Diminution of Rubber Jellies	235
A Theory of Vulcanization of Rubber	659
Autographic Stress-Strain Curves of Rubber at Low Elongation	689
Balata, Fractionation of	511
Balata, Heats of Combustion of	24
Balata, Molecular Size of	519
Balata, Viscosity Studies on	516
Behavior of Various Clays with Crude and Reclaimed Rubber	743
Carbon Black	111, 122
Carbon Black, in Rubber Insulating Compounds	733
Carbon Blacks, Moisture Content of	185
Carbon Blacks, Some Properties of	418
Chemical Adsorption Studies of Rubber Fillers and Rubber Compounds	229
Clays, Behavior of Various	743
Color Reactions of Rubber and Gutta-Percha	22
Compressibility of Rubber	555
Condensation Products of Aminophenols with Aldehydes	51
Constitution of Rubber According to Its Swelling in Liquids	576
Correlation between Geer Oven and Natural Aging of Selected Tire Compounds	175
Correlation of Various Aging Tests with Natural Shelf Aging	169
Cryoscopic Measurements of Rubber Solutions and the Separation of Mixed Phases from Benzene Solutions of Rubber	487
Determination of Total Moisture in Carbon Blacks	340
Ebonite, Experiments on Causes of Deterioration of	618
Effect of Pigmentation on Work of Retraction of Rubber Compounds	764
Estimation of the Degree of Penetration of Rubber into Fabrics	328
Evolution of Hydrogen Sulfide from Vulcanized Rubber	386
Experiments on Causes of Deterioration of Ebonite When Exposed to Light and Air	618
Factors in the Works Control of Plasticity by the Williams Method	293
Fillers, Surface Energy between Rubber and	258
Fillers, Studies of Chemical Adsorption of	229
Flexing Test for Tire Carcass Stocks	333
Gutta-percha, Color Reaction of	22
Gutta-percha, Heats of Combustion of	24
Heats of Combustion of Rubber, Gutta-Percha, and Balata	24
Influence of Light on the Color of White Rubber	612
Influence of Pigments on Some Physical Properties of Unvulcanized Rubber	87
Influence of the Principal Accelerators of Vulcanization on the Preservation of Rubber	207
Investigation of Viscosity of Rubber Solutions	604
Isoprene and Rubber	494, 511, 516, 519, 586, 596
Isoprene, Experiments with	472
Kinetics of Vulcanization of Rubber with Sulfur and Selenium	650
Laboratory Flexing Tests as an Aid in Investigating the Pneumatic Carcass	544
Latex, Coagulation of	254, 353
Latex, Swelling of	361
Measurement of the p_H Value of Rubber Latex	616
Method of Making Micro-Sections of Rubber Stocks	755
3-Methyl-1,3-Pentadiene	626
4-Methyl-4-Octene by Isoprene Ethylation	485
Micro-Sections of Rubber Stocks, Method of Making	755
Moisture Content of Carbon Blacks	185
Natural and Synthetic Rubber	485
Natural vs. Artificial Aging	148
Notes on Defects in Smoked Sheet and Crepe Rubber	264
On the Permeability of Rubber Mixings	96
Outline of Tentative Standard Laboratory Procedure for the Preparation and Physical Testing of Rubber Samples	179

	Page
Permeability of Rubber to Aid	99
Physical Testing of Rubber Samples, Outline of	179
Pigmentation, Effect of	764
Plasticity, Factors in Works Control of	293
Polymerization Reactions under High Pressure. I	472
Quebrachitol from the Serum of Hevea Latex	1
Recovering Lead in the Rubber Factory	470
Rate of Cure of Reclaimed Rubber. II	315
Relation between Artificial Aging Tests and Natural Aging	144
Solubility of Oxygen in Rubber and Its Effect on Rate of Oxidation	678
Some Engineering Problems in Rubber Industry	343
Some Notes on Artificial Aging Tests for Rubber	164
Some Observations on Carbon Black	111
Some Properties of Carbon Black	418
Strength and Stretch of Double Texture Rubber Goods	531
Structural Changes during Processing of Rubber	716
Structural Differences in Masticated and Unmasticated Raw Rubber Mixtures and Vulcanizates	35
Studies of Conditions Affecting the Vulcanization of Rubber. III. Some Properties of Rubber against Solvents	242
Studies of Conditions Affecting the Vulcanization of Rubber. IV. Heat Reaction during Vulcanization	384
Studies in the Oxidation of Rubber Mixings	563
Studies in the Vulcanization of Rubber. I, II, III, IV	631, 639
Studies of the Aging of Vulcanized Rubber and the Occurrence of the Maximum State of Acetone Extracts	378
Studies Relating to Compression and Shear Resistance of Rubber	523
Tetramethyloctadiene	485
The Aging of Cotton Contained in Rubber Goods	53
The Aging of Vulcanized Rubber under Varying Elongation	131
The Berginization of Rubber	33
The Coagulation of Hevea Latex	353
The Coefficients of Friction between Rubber and Various Materials	67, 286
The Effect of Solvents on the Stress-Strain Curve of Vulcanized Rubber	19
The Formation of Thin Films of Organic Colloids on Mercury Surfaces	245
The Natural Coagulation of Hevea Latex	254
The Pneumatic Tire in Heavy Transport	271
The Question of Vulcanization without Sulfur	190
The Relationship between Forces and Deformation with Special Reference to Rubber	62
Thermodynamics of Rubber. I	397
Thermodynamics of Rubber. II. Stressed Vulcanized Rubber	403
The Solvation of High Molecular Substances, Especially Rubber	409
The Surface Energy between Rubber and Fillers	215
The Swelling of Latex	361
The Swelling of Vulcanized Rubber in Liquids	3
The Tensile Strength of Java Plantation Rubber	350
The Testing of Automotive Rubber Parts Assembled under Compression. Parts I and II	431
The Thermodynamics of Rubber. II	403
Transformation of Energy by Rubber	74
Viscosity of Rubber Solutions, an Investigation of the	604
Vulcanization of Rubber with Nitro Compounds	195, 639, 659